

CLAIMS

We claim:

1. A method of sensitizing tumor cells to radiation, comprising the step of exposing the tumor cell to an effective amount of at least one monoterpene or sesquiterpene and irradiating the tumor cell.
2. The method of claim 1 in which the tumor cell is exposed to a monoterpene.
3. The method of claim 2 wherein the monoterpene is perillyl alcohol.
4. The method of claim 2 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, menthol, citral, myrecene and geranyl tigllate.
5. The method of claim 2 wherein the monoterpene is selected from the group consisting of perillyl alcohol, liminone, carvone, citral, myrecene, and geranyl tigllate.
6. The method of claim 1 wherein the tumor cell is a malignant glioma cell.
7. The method of claim 1 wherein the tumor cell is selected from the group consisting of colon, pancreatic and prostate cells.
8. The method of claim 1 wherein the cell is exposed to the monoterpene or sesquiterpene before and during irradiation.
9. The method of claim 1 wherein the cell is exposed to a monoterpene.

10. A method of sensitizing tumor cells to chemotherapeutic agents, comprising the step of exposing the tumor cell to an effective amount of at least one monoterpene or sesquiterpene and irradiating the tumor cells.

11. The method of claim 10 wherein the monoterpene is perillyl alcohol.

12. The method of claim 10 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, menthol, citral, myrecene and geranyl tigllate.

13. The method of claim 10 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, citral, myrecene, and geranyl tigllate.

14. The method of claim 10 wherein the tumor cell is a malignant glioma cell.

15. The method of claim 10 wherein the cell is exposed to the monoterpene or sesquiterpene before or during irradiation.

16. The method of claim 15 wherein the cell is exposed to a monoterpene.

17. A method of sensitizing tumor cells to chemotherapy, comprising the step of exposing the tumor cell to an effective amount of at least one monoterpene or sesquiterpene and treating the tumor cell with an effective amount of chemotherapeutic agent.

18. The method of claim 17 in which the tumor cell is exposed to a monoterpene.

19. The method of claim 18 wherein the monoterpene is perillyl alcohol.

20. The method of claim 18 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, menthol, citral, myrecene and geranyl tigllate.

21. The method of claim 18 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, citral, myrecene, and geranyl tigllate.

22. The method of claim 17 wherein the tumor cell is a malignant glioma cell.

23. The method of claim 17 wherein the tumor cell is selected from the group consisting of colon, pancreatic and prostate cells.

24. The method of claim 17 wherein the cell is exposed to the monoterpene or sesquiterpene before and during chemotherapy.

25. The method of claim 17 wherein the cell is exposed to a monoterpene.

26. A method of sensitizing tumor cells to immunomodulatory agents, comprising the step of exposing the tumor cell to an effective amount of at least one monoterpene or sesquiterpene and treating the tumor cells with the immunomodulatory agent.

27. The method of claim 26 wherein the monoterpene is perillyl alcohol.

28. The method of claim 26 wherein the monoterpene is selected from the group consisting of perillyl alcohol, limonene, carvone, menthol, citral, myrecene and geranyl tigllate.

29. The method of claim 26 wherein the monoterpene is selected from the group consisting of perillyl alcohol, liminone, carvone, citral, myrecene, and geranyl tigllate.

30. The method of claim 26 wherein the tumor cell is a malignant glioma cell.

31. The method of claim 26 wherein the cell is exposed to the monoterpene or sesquiterpene before or during therapy.

32. The method of claim 31 wherein the cell is exposed to a monoterpene.

33. The method of claim 26 wherein the agent is a cytokine.